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10/718,640

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EXAMINER

WALFORD, NATALIE K

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/718,640 | Applicant(s) SHIGEMURA ET AL. | |
| | Examiner Natalie K. Walford | Art Unit 2879 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 23-33 and 39-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-22, 34-38 and 49-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/03, 6/04, 8/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

The Examiner notes that the Applicant was correct in identifying the error in restriction requirement. Applicant has correctly considered forgotten claims 49-51 to belong to Species A, wherein claim 51 is generic to both Species A and B. For the record, Species A includes claims 1-6, 10-22, 34-38, and 49-50, and that claim 51 is generic. Claim 51 is generic and should claim 51 be allowed later, the linking claims 26-30, which link together the inventions of Species A and B and generic claim 51.

Applicant's election with traverse of group I in the reply filed on April 7, 2006 is acknowledged. The traversal is on the ground(s) that the search and examination of both sets of claims would not be a serious burden on the Examiner at this time. This is not found persuasive because the examiner, in order to establish reasons for insisting upon restriction after distinctness has been demonstrated, must show by appropriate explanation that the following condition is held: there is separate classification. This shows that each distinct subject has attained recognition in the art as a separate subject for the inventive effort, and also a separate field of search. (MPEP § 808.02 A) It is noted that the examiner has asserted that the inventions of Group I and Group II are distinct and that both groups are separately classified. Therefore examiner properly satisfies the criteria for establishing undue burden in accordance with MPEP § 808.02 (A).

The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: figure 9, item 213a. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawara et al. (JP 2002-060927).

Regarding claim 1, Nakagawara discloses an evaporation mask (item 1) formed of a thin film (paragraph 14) in figure 1, wherein the evaporation mask is drawn taut by application of tension, and comprises: at least one mask unit (item 2), comprising: a plurality of main apertures (item 2), and a plurality of first dummy apertures (item 3) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask.

Regarding claim 2, Nakagawara discloses the evaporation mask of claim 1, wherein the main apertures form an effective deposition area, and the first dummy apertures form an ineffective deposition area (FIGS. 1 and 2).

Regarding claim 3, Nakagawara discloses the evaporation mask of claim 2, wherein at least one of the first dummy apertures is formed parallel to the main apertures (FIGS. 1 and 2, items 2, 3, and 5, and 7), and at least another one of the first dummy apertures is formed perpendicular to the main apertures (FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 4, Nakagawara discloses the evaporation mask of claim 2, comprising at least two mask units (FIG. 1, item 2), and further comprising a plurality of second dummy apertures (FIG. 1, item 3) formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask.

Regarding claim 5, Nakagawara discloses the evaporation mask of claim 4, wherein the second dummy apertures are formed outside the effective deposition areas where the mask units are formed (FIGS. 1 and 2).

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Regarding claim 6, Nakagawara discloses the evaporation mask of claim 4, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 49, Nakawagara discloses an evaporation mask (item 1) formed of a thin film (paragraph 14) in figure 1, wherein the evaporation mask is drawn taut by application of tension, the evaporation mask comprising: at least one mask unit (item 2) comprising: at least one main aperture (item 2), and at least one first dummy aperture (item 3) formed adjacent to an outermost at least one main aperture in a direction in which tension is applied to the evaporation mask.

Regarding claim 50, Nakawagara discloses the evaporation mask of claim 49, further comprising at least one second dummy aperture formed outside (FIG. 1, item 3) and adjacent to the outermost at least one mask unit in the direction in which tension is applied to the evaporation mask.

Regarding claim 51, Nakawagara discloses a mask unit for an evaporation mask (item 1) in figure 1, comprising: a main aperture (item 2); and a dummy aperture (item 3); wherein the dummy aperture prevents the main aperture from being deformed by tension applied to the evaporation mask.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-22 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US PUB 2001/00198707) in view of Kim et al. (US PUB 2003/0111957) in further view of Nakagawara et al. (JP 2002-060927).

Regarding claim 10, Yamada discloses a method of manufacturing an organic electroluminescent (EL) device in figure 6, the method comprising: forming first electrodes (items 61R, 61G, 61B) on a substrate (item 10); disposing an evaporation mask (item 100) to form an organic film over the substrate; forming the organic film comprising an effective luminescent area to cover at least the first electrodes by evaporating an organic material containing an organic luminescent material through the main apertures (paragraph 62-63), but does not expressly disclose that the evaporation mask is drawn taut by application of tension and having at least one mask unit, the mask unit comprising a plurality of main apertures and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask, forming a first dummy pattern area outside the effective luminescent area through the first dummy apertures, and forming second electrodes on the organic film so that the effective luminescent area is formed at an area where the first and second electrodes overlap; and sealing the resulting structure, as claimed by Applicant.

Nakawagara is cited to show an evaporation mask drawn taut by application of tension and having at least one mask unit (item 2), the mask unit comprising a plurality of main apertures (item 2) and a plurality of first dummy apertures (item 3) formed adjacent to outermost ones of

the main apertures in a direction in which tension is applied to the evaporation mask.

Nakawagara teaches that with an evaporation mask with a dummy opening, that the thermal expansion can be absorbed, adhesion can be maintained, and a formation defect will not be obtained (paragraph 16). Kim is cited to show an organic electroluminescent device with a second electrode formed on an organic film (paragraphs 78-79) and the structure is then sealed (item 40). Kim teaches that by using a deposition mask, damage can be prevented to layers, short-circuit prevented between layers, and preventing deterioration of layer characteristics (paragraphs 24-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yamada's invention to include the evaporation mask drawn taut by application of tension and having at least one mask unit, the mask unit comprising a plurality of main apertures and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask, forming a first dummy pattern area outside the effective luminescent area through the first dummy apertures as suggested by Nakawagara for maintaining adhesion and absorbing thermal expansion and forming second electrodes on the organic film so that the effective luminescent area is formed at an area where the first and second electrodes overlap and sealing the resulting structure as suggested by Kim for protecting the organic electroluminescent device.

Regarding claim 11, the combined reference of Yamada, Kim, and Nakagawara disclose the method of claim 10, wherein at least one of the first dummy apertures is formed parallel to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of

the first dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 12, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 10, wherein at least two organic EL devices are manufactured in a single process (Yamada; paragraph 62-64), and the evaporation mask comprises at least two mask units (Nakawagara; FIG. 1, item 2), through each of which the organic film of a single organic EL device can be deposited, and a plurality of second dummy apertures outside and adjacent to outermost ones of the mask units in the direction in which tension is applied to the evaporation mask (Nakawagara; FIG. 1, item 3).

Regarding claim 13, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 12, wherein the second dummy apertures of the evaporation mask are located outside the effective luminescent areas of the organic EL devices that are deposited by the outermost mask units adjacent to the second dummy apertures (Nakawagara; FIGS. 1 and 2).

Regarding claim 14, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 12, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 15, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 10, wherein in forming the second electrodes, an evaporation mask to form the second electrodes is disposed over the substrate (Kim; FIG. 6), the evaporation mask drawn taut by application of tension and having at least one mask unit (Nakawagara; FIG. 1, item 2),

the mask unit comprising a plurality of main apertures (Nakawagara; FIG. 1, item 2) and a plurality of first dummy apertures (Nakawagara; FIG. 1, item 3) formed adjacent to the outermost main apertures in the direction in which tension is applied to the evaporation mask, the second electrodes are formed on the effective luminescent area through the main apertures (Kim; FIG. 6), and a second dummy pattern area is formed outside the effective luminescent area through the first dummy apertures (Nakawagara; FIG. 1).

Regarding claim 16, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 15, wherein at least one of the first dummy apertures is formed parallel to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the first dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 17, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 15, wherein at least two organic EL devices are manufactured in a single process (Yamada; paragraphs 62-64), and the evaporation mask comprises at least two mask units (Nakawagara; FIG. 1, item 2), through each of which the second electrodes of a single organic EL device can be deposited, and a plurality of second dummy apertures outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask (Nakawagara; FIG. 1, item 3).

Regarding claim 18, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 17, wherein the second dummy apertures are located outside the effective luminescent areas of the organic EL devices that are deposited by the outermost mask units adjacent to the second dummy apertures (Nakawagara; FIGS. 1 and 2).

Regarding claim 19, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 17, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 20, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 10, wherein at least two organic EL devices are manufactured in a single process (Yamada; paragraphs 62-64), the second electrodes are formed using an evaporation mask drawn taut by application of tension and having at least two mask units (Nakawagara; FIG. 1, item 2), through which the second electrodes of the organic EL devices can be deposited, and the evaporation mask comprises a plurality of second dummy apertures outside and adjacent to outermost mask units in the direction in which tension is applied to the evaporation mask (Nakawagara; FIG. 1, item 3).

Regarding claim 21, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 20, wherein the second dummy apertures are located outside the effective luminescent areas of the organic EL devices that are deposited by the outermost mask units adjacent to the second dummy apertures (Nakawagara; FIGS. 1 and 2).

Regarding claim 22, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 20, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 34, Yamada discloses a method of manufacturing an organic EL device in figure 6, the method comprising: forming first electrodes (items 61R, 61G, 61B) on a substrate (item 10) in a predetermined pattern; forming an organic film (item 100) comprising an effective luminescent area to cover at least the first electrodes by evaporating an organic material containing an organic luminescent material, but does not expressly disclose disposing an evaporation mask to form second electrodes over the organic film, the evaporation mask drawn taut by application of tension and comprising a plurality of main apertures and a plurality of dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask; forming the second electrodes through the main apertures so that the effective luminescent area is formed at an area where the first and second electrodes overlap, and forming a second dummy pattern area outside the effective luminescent area through the first dummy apertures; and sealing the resulting structure, as claimed by Applicant.

Nakawagara is cited to show an evaporation mask drawn taut by application of tension and having at least one mask unit (item 2), the mask unit comprising a plurality of main apertures (item 2) and a plurality of first dummy apertures (item 3) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask.

Nakawagara teaches that with an evaporation mask with a dummy opening, that the thermal expansion can be absorbed, adhesion can be maintained, and a formation defect will not be obtained (paragraph 16). Kim is cited to show an organic electroluminescent device with a second electrode formed on an organic film (paragraphs 78-79) and the structure is then sealed (item 40). Kim teaches that by using a deposition mask, damage can be prevented to layers,

short-circuit prevented between layers, and preventing deterioration of layer characteristics (paragraphs 24-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yamada's invention to include the evaporation mask drawn taut by application of tension and having at least one mask unit, the mask unit comprising a plurality of main apertures and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask, forming a first dummy pattern area outside the effective luminescent area through the first dummy apertures as suggested by Nakawagara for maintaining adhesion and absorbing thermal expansion and forming second electrodes on the organic film so that the effective luminescent area is formed at an area where the first and second electrodes overlap and sealing the resulting structure as suggested by Kim for protecting the organic electroluminescent device.

Regarding claim 35, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 34, wherein at least one of the first dummy apertures is formed parallel to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the first dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Regarding claim 36, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 34, wherein at least two organic EL devices are manufactured in a single process (Yamada; paragraphs 62-64), and the evaporation mask comprises at least two mask units (Nakawagara; FIG. 1, item 2), through each of which the second electrodes of a single organic EL device can be deposited, and a plurality of second dummy apertures outside and

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adjacent to outermost ones of the mask units in the direction in which tension is applied to the evaporation mask (Nakawagara; FIG. 1, item 3).

Regarding claim 37, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 36, wherein the second dummy apertures of the evaporation mask are located outside the effective luminescent areas of the organic EL devices that are deposited by the outermost mask units adjacent to the second dummy apertures (Nakawagara; FIGS. 1 and 2).

Regarding claim 38, the combined reference of Yamada, Kim, and Nakawagara disclose the method of claim 36, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (Nakawagara; FIGS. 1 and 2, items 2, 3, 5, and 7).

Contact Information

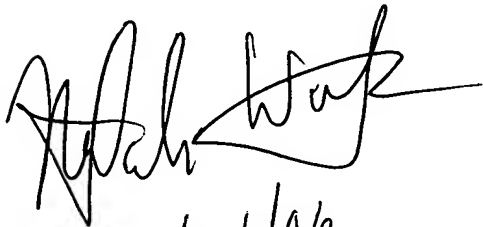
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW


6/26/06

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6/26/06
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